

**Appln No. 10/802,666**  
**Amdt date August 8, 2006**  
**Reply to Office action of February 8, 2006**

**REMARKS/ARGUMENTS**

Claims 1-34 are in the present application, of which claims 1, 20 and 30 are independent. None of the claims has been amended or cancelled. New claims 33-34 have been added. Applicants respectfully request reconsideration and allowance of claims 1-32. Applicants further request consideration on the merit and allowance of claims 33-34. Applicants respond to each point raised by the Examiner in the February 8, 2006 Office Action as follows:

**Claim Rejections Under 35 USC § 102(e)**

Claims 1-32 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Jang et al. ("Jang," U.S. Patent No. 6,608,959). These rejections are respectfully traversed.

Claim 1 recites:

"A method of aligning optical components of a photonic package, said method comprising:

...

determining a direction to deform at least one of the optical components through performing a sweep of force vectors; and

applying a force in the determined direction to plastically deform said at least one of the optical components to re-align the optical components."  
(Emphasis added)

Applicants submit that Jang does not teach the noted features. First, Jang discloses that, "[i]f P2 is less than the percentage of P0, then the gripper moves the ferrule in a pre-programmed direction a distance X1 in step 220." (See Col. 5, lines 29-31.) (Emphasis added) Therefore, Jang does not teach "determining a direction to deform at least one of the optical components through performing a sweep of force vectors," as recited in claim 1. By way of example, page 19, lines 18-20 of the Applicants' detailed description discloses that "the gripper may sweep through 360 degrees (e.g., in one degree increments) at the inputted force." Jang does not

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disclose performing a sweep of force vectors similar to the one disclosed on page 19 or any other performance of a sweep of force vectors to determine a direction to deform.

Furthermore, Jang discloses that "[i]t is desirable to move the ferrule in the elastic region of the ferrule/clip subassembly to prevent permanent deformation." (See Col. 5, lines 32-34.) (Emphasis added.) Therefore, Jang does not teach "applying a force in the determined direction to plastically deform said at least one of the optical components," as recited in claim 1. In contrast, by disclosing that it is desirable to move the ferrule in the elastic region to prevent permanent deformation, Jang teaches away from "applying a force in the determined direction to plastically deform" the ferrule.

In an alternate embodiment, Jang discloses that "the clip 300 may be plastically deformed by the mechanical gripper shown in FIG. 6." (See Col. 7, lines 2-4.) However, with respect to the clip of this alternate embodiment, Jang does not disclose "determining a direction to deform at least one of the optical components through performing a sweep of force vectors." Moreover, Jang does not disclose "applying a force in the determined direction to plastically deform" the clip of this alternate embodiment.

To anticipate a claim, the reference must teach every element of the claim. Therefore, all claim elements, and their limitations, must be found in the prior art reference to maintain a rejection based on 35 U.S.C. § 102. Because Jang does not teach all elements of claim 1, claim 1 is not anticipated by Jang. Therefore, Applicants respectfully request that the rejection of claim 1 under 35 U.S.C. § 102(e) be reconsidered and withdrawn, and that this claim be allowed.

Because claims 2-19 depend, directly or indirectly, from claim 1, they each incorporate all the terms and limitations of claim 1 in addition to other limitations, which together further patentably distinguish these claims over the cited references.

For example, claim 3 recites that "applying the force in the determined direction comprises: providing a force feedback signal; and controlling an applied force vector using the

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force feedback signal." (Emphasis added) Applicants do not see such disclosure in the sections of Jang cited by the Examiner, namely, FIG. 5b and Col. 5, line 34 through Col. 6, line 1-21. By way of example, as explained earlier, Jang merely discloses that "the gripper moves the ferrule in a pre-programmed direction a distance X1 in step 220." (See Col. 5, lines 29-31.)

As another example, claim 4 recites "performing a linear sweep of force vectors to confirm the determined direction." Applicants do not see such disclosure in the sections of Jang cited by the Examiner, namely, FIG. 5a and Col. 5, line 4-6. By way of example, Col. 5, lines 4-6 merely recites ". . . the gripper may move the ferrule in the +Y direction a distance X0 which approximates the amount of anticipated shrinkage." As such, Jang does not disclose "performing a linear sweep of force vectors to confirm the determined direction" in addition to "determining a direction to deform at least one of the optical components through performing a sweep of force vectors" of Claim 1.

At least for the reasons explained above, Applicants respectfully request that the rejection of claims 2-19 under 35 U.S.C. § 102(e) be reconsidered and withdrawn, and that these claims be allowed.

Claim 20 recites:

"A system for performing a force bend alignment to re-align optical components of a photonic package after permanent fixation, said method comprising:

...

a gripper suitable for grabbing an optical component of the photonic package,

wherein the gripper performs a sweep of force vectors on at least one of the optical components of the photonic package in an automated manner to determine a direction to deform a supporting member coupled to said at least one of the optical components to re-align the optical components. (Emphasis added)

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At least for reasons similar to those given above in reference to claim 1, Jang does not teach all elements of claim 20. Therefore, it is believed that claim 20 is not anticipated by Jang. Therefore, Applicants respectfully request that the rejection of claim 20 under 35 U.S.C. § 102(e) be reconsidered and withdrawn, and that this claim be allowed.

Because claims 21-29 depend, directly or indirectly, from claim 20, they each incorporate all the terms and limitations of claim 20 in addition to other limitations, which together further patentably distinguish these claims over the cited references. Therefore, Applicants respectfully request that the rejection of claims 21-29 under 35 U.S.C. § 102(e) be reconsidered and withdrawn, and that they be allowed.

Claim 30 recites:

"A method of aligning optical components of a photonic package, said method comprising:

...

c) determining a direction to deform one of said optical components through performing a sweep of force vectors;

d) applying a force to plastically deform said one of the optical components to re-align the optical components..." (Emphasis added)

At least for reasons similar to those given above in reference to claim 1, Jang does not teach all elements of claim 30. Therefore, it is believed that claim 30 is not anticipated by Jang. Therefore, Applicants respectfully request that the rejection of claim 30 under 35 U.S.C. § 102(e) be reconsidered and withdrawn, and that this claim be allowed.

Because claims 31-32 depend from claim 30, they each incorporate all the terms and limitations of claim 30 in addition to other limitations, which together further patentably distinguish these claims over the cited references. Therefore, Applicants respectfully request that the rejection of claims 31-32 under 35 U.S.C. § 102(e) be reconsidered and withdrawn, and that these claims be allowed.

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**New Claims**

New claims 33-34 depend, directly or indirectly, from claim 20. As explained earlier, it is believed that claim 20 is not anticipated by Jang. Because claims 33-34 depend, directly or indirectly, from claim 20, they each incorporate all the terms and limitations of claim 20 in addition to other limitations, which together further patentably distinguish these claims over the cited references. By way of example, claim 33 recites "a pneumatic gripper stop adapted to prevent complete closure of the gripper." Also, claim 34 recites "the pneumatic gripper stop comprises adjustment screws adapted to be altered to adjust a looseness of the gripper." Jang does not teach or suggest either of these features.

In view of the above, it is believed that claims 33-34 are not anticipated by Jang, and Applicants respectfully request that they be allowed.

**Concluding Remarks**

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application, including claims 1-34, is in condition for allowance and, accordingly, a timely indication thereof is respectfully requested. If there are any remaining issues that can be addressed over the telephone, the Examiner is cordially invited to call the Applicants' attorney at the number listed below.

Respectfully submitted,  
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